

We claim:

1 1. A portable, wearable, computerized system for
2 collecting, coordinating, and communicating
3 information, said system being capable of providing
4 real-time situational awareness in armed conflict
5 conditions, said system comprising:
6 a computer for operating said system;
7 a software interface for interacting with
8 said computer;
9 an input/output device for interfacing said
10 computer with the components of said system, said
11 components including:
12 a display for displaying information processed by
13 said computer;
14 a voiceless, wireless communications means; and
15 a user position location device;
16 wherein said computer, said input/output device,
17 and said components are each so designed so as to be
18 quickly removable or replaceable such that said system
19 is modular;
20 and wherein said system is adaptable to be
21 wearable on a variety of existing commercial-off-the-
22 shelf or government-furnished equipment, vests, packs,
23 or body armor.

1 2. A portable, wearable, weapon-integrated
2 computerized system for collecting, coordinating, and
3 communicating information, said system being capable of
4 providing real-time situational awareness in armed
5 conflict conditions, said system comprising:
6 a computer for operating said system;
7 a software interface for interacting with
8 said computer;
9 an input/output device for interfacing said
10 computer with the components of said system, said
11 components including:
12 a display for displaying information processed by
13 said computer;
14 a voiceless, wireless communications means;
15 a user position location device; and
16 a weapon communicably connected to said computer;
17 wherein said computer, said input/output device,
18 and said components are each so designed so as to be
19 removable or replaceable such that said system is
20 modular;
21 and wherein said system is adaptable to be
22 wearable on a variety of existing commercial-off-the-
23 shelf or government-furnished equipment, vests, packs,
24 or body armor.

1 3. The system of claims 1 or 2 wherein said modular
2 nature of said components renders said system capable
3 of being quickly tailored to situationally specific
4 conditions or environments.

1 4. The system of claim 3 wherein said computer, said
2 input/output device, and each said component of said
3 system is a self-contained, individually ruggedized,
4 and weatherproofed unit.

1 5. The system of claims 1 or 2 wherein said
2 input/output device comprises:
3 voltage converters for converting power provided
4 by an independent power source to voltages compatible
5 with said components of said system, said voltage
6 converters thereafter being capable of transmitting
7 said converted power to said respective components; and
8 data relays for routing data through said system;
9 said data relays being capable of routing said data
10 between said components and said computer of said
11 system thereby permitting said components and said
12 computer to communicate;
13 wherein said input/output device is a self-
14 contained unit with plug-in, plug-out connectors.

1 6. The system of claim 4 wherein said input/output
2 device comprises:
3 voltage converters for converting power provided
4 by an independent power source to voltages compatible
5 with said components of said system, said voltage
6 converters thereafter being capable of transmitting
7 said converted power to said respective components; and
8 data relays for routing data through said system;
9 said data relays being capable of routing said data
10 between said components and said computer of said
11 system thereby permitting said components and said
12 computer to communicate;
13 wherein said input/output device is a self-
14 contained unit with plug-in, plug-out connectors.

1 7. An input/output device for interfacing a computer
2 with the components of a portable, wearable,
3 computerized system for collecting, coordinating, and
4 communicating information, said system being capable of
5 providing real-time situational awareness in armed
6 conflict conditions, the input/output device
7 comprising:
8 voltage converters for converting power provided
9 by an independent power source to voltages compatible

10 with said components of said system, said voltage
11 converters thereafter being capable of transmitting
12 said converted power to said respective components; and
13 data relays for routing data through said system;
14 said data relays being capable of routing said data
15 between said components and said computer of said
16 system thereby permitting said components and said
17 computer to communicate;
18 wherein said input/output device is a self-
19 contained unit with plug-in, plug-out connectors.

1 8. The system of claims 1 or 2 wherein said software
2 interface is controlled by a weapon mounted cursor
3 control device for interfacing with a computer.

1 9. The system of claim 6 wherein said software
2 interface is controlled by a weapon mounted cursor
3 control device for interfacing with a computer.

1 10. The weapon mounted cursor control device according
2 claim 8, wherein said weapon mounted cursor control
3 device comprises:

4 a first mechanism for controlling a cursor; and

5 at least a second mechanism for performing
6 control, selection, or action functions on said
7 software interface.

1 11. The weapon mounted cursor control device according
2 claim 9, wherein said weapon mounted cursor control
3 device comprises:

4 a first mechanism for controlling a cursor; and
5 at least a second mechanism for performing
6 control, selection, or action functions on said
7 software interface.

1 12. The weapon mounted cursor control device according
2 to claim 8 wherein said weapon mounted cursor control
3 device is located proximal the rear-center of the
4 weapon grip.

1 13. The weapon mounted cursor control device according
2 to claim 9 wherein said weapon mounted cursor control
3 device is located proximal the rear-center of the
4 weapon grip.

1 14. The weapon mounted cursor control device according
2 to claim 12 wherein said cursor control device is a

3 miniaturized joystick capable of use by both right and
4 left handed users.

1 15. The weapon mounted cursor control device according
2 to claim 13 wherein said cursor control device is a
3 miniaturized joystick capable of use by both right and
4 left handed users.

1 16. In a portable, wearable, weapon-integrated
2 computerized system for collecting and coordinating
3 information, the improvement comprising:
4 a weapon mounted cursor control device for
5 interfacing with a computer.

1 17. The weapon mounted cursor control device according
2 to claim 16 wherein said weapon mounted cursor control
3 device comprises:

4 a first mechanism for controlling a cursor;
5 at least a second mechanism for performing
6 control, selection, or action functions on said
7 software interface.

1 18. The weapon mounted cursor control device according
2 to claim 16 wherein said weapon mounted cursor control

3 device is located proximal the rear-center of the
4 weapon grip.

1 19. The weapon mounted cursor control device according
2 to claims 16 or 18 wherein said cursor control device
3 is a miniaturized joystick capable of use by both right
4 and left handed users.

1 20. The weapon-mounted cursor control device according
2 to claim 8 wherein the software which interfaces said
3 cursor control device with said computer provides a
4 user with a click-and-carry method of cursor control.

1 21. The weapon-mounted cursor control device according
2 to claim 9 wherein the software which interfaces said
3 cursor control device with said computer provides a
4 user with a click-and-carry method of cursor control.

1 22. The weapon-mounted cursor control device according
2 to claim 16 wherein the software which interfaces said
3 cursor control device with said computer provides a
4 user with a click-and-carry method of cursor control.

1 23. The software according to claim 20 wherein said
2 click-and-carry method permits a user to select and
3 pick up a graphical object at a first location on a
4 computer display by depressing and releasing a select
5 button;
6 whereby the user can thereafter carry said
7 graphical object to a second location on said computer
8 display utilizing a mechanism for controlling said
9 cursor; and
10 whereby the user can release said graphical object
11 at said second location by depressing and releasing
12 said select button.

1 24. The software according to claim 21 wherein said
2 click-and-carry method permits a user to select and
3 pick up a graphical object at a first location on a
4 computer display by depressing and releasing a select
5 button;
6 whereby the user can thereafter carry said
7 graphical object to a second location on said computer
8 display utilizing a mechanism for controlling said
9 cursor; and
10 whereby the user can release said graphical object
11 at said second location by depressing and releasing
12 said select button.

1 25. The software according to claim 22 wherein said
2 click-and-carry method permits a user to select and
3 pick up a graphical object at a first location on a
4 computer display by depressing and releasing a select
5 button;
6 whereby the user can thereafter carry said
7 graphical object to a second location on said computer
8 display utilizing a mechanism for controlling said
9 cursor; and
10 whereby the user can release said graphical object
11 at said second location by depressing and releasing
12 said select button.

1 26. A method of controlling a cursor with a weapon-
2 mounted cursor control device in a portable, wearable,
3 weapon-integrated computerized system for collecting
4 and coordinating information, said method comprising:
5 positioning a cursor proximal a graphical object
6 located at a first location on a computer display
7 utilizing a mechanism for controlling a cursor;
8 selecting and picking up said graphical object at
9 said first location by depressing and releasing a
10 select button;

11 thereafter carrying said graphical object to a
12 second location on said computer display utilizing said
13 mechanism for controlling said cursor; and
14 thereby releasing said graphical object at said
15 second location by depressing and releasing said select
16 button.

1 27. The system according to claims 1 or 2 further
2 including a battery pack for providing power to said
3 system,

4 wherein said battery pack comprises at least a
5 first battery half and a second battery half,
6 whereby said first or second battery half may be
7 removed from said battery pack,
8 whereby the remaining battery half of said battery
9 pack is capable of providing power to said system.

1 28. The system according to claim 5 further including
2 a battery pack for providing power to said system,
3 wherein said battery pack comprises at least a
4 first battery half and a second battery half,
5 whereby said first or second battery half may be
6 removed from said battery pack,
7 whereby the remaining battery half of said battery
8 pack is capable of providing power to said system.

1 29. The input/output device according to claim 7
2 wherein said input/output device is so designed so as
3 to be capable of routing power from at least a first
4 and second power source;

5 whereby if said first or second power source is
6 removed, said first or second remaining power source is
7 capable of providing power to said system.

1 30. The input/output device according to claim 29
2 further including a mechanism for switching between
3 images for display on said system.

1 31. The system according to claims 1 or 2 wherein said
2 system is capable of being connected to or transmitting
3 to a high-resolution display.

1 32. The input/output device according to claim 30
2 wherein said input/output device is so designed so as
3 to be capable of transmitting live video, collected by
4 a component of said system, to a high-resolution
5 display.

1 33. A method of composing messages with a cursor-
2 control- device for transmission by a portable,
3 wearable, computerized system for collecting,

4 coordinating, and communicating information, said
5 method comprising:

6 selecting words or numbers from menus displayed on
7 a software interface display; said menus providing
8 groups of words displayable according to selected
9 situationally-descriptive categories;

10 whereby when said words or numbers are selected
11 from said menus with said cursor control device, said
12 words or numbers appear in a text box thereby to form a
13 message;

14 whereby said message may thereafter be transmitted
15 to selected recipients utilizing said cursor control
16 device.

1 34. A method of ~~composing~~ a message utilizing a cursor
2 control device; said cursor control device being
3 communicably operable with said software interface of
4 said system of claims 1 or 2, wherein said method
5 comprises:

6 selecting words or numbers from menus displayed on
7 a software interface display; said menus providing
8 groups of words displayable according to selected
9 descriptive categories;

10 whereby when said words or numbers are selected
11 from said menus with said cursor control device, said

12 words or numbers appear in a text box thereby to form a
13 message;

14 whereby said message may thereafter be selectively
15 transmitted utilizing said cursor control device.

1 35. The system of claims 1 or 2 wherein said software
2 interface is the interface as shown in Fig. 8.

1 36. The weapon-mounted cursor control device according
2 to claim 8 wherein the weapon-mounted cursor control
3 device comprises:

4 a first mechanism for controlling a cursor;

5 at least a second mechanism capable of controlling
6 a cursor;

7 whereby when said second mechanism is depressed,
8 said software automatically and substantially
9 instantaneously positions said cursor proximal the

10 location of a first graphical icon or software control
11 button displayed on a software interface display;

12 whereby, each successive time said second

13 mechanism is depressed, said software automatically and
14 substantially instantaneously positions said cursor

15 proximal the location of at least a second graphical
16 icon or software control button.

1 31. The weapon-mounted cursor control device according
2 to claim 16 wherein the weapon-mounted cursor control
3 device comprises:

4 a first mechanism for controlling a cursor;

5 at least a second mechanism capable of controlling
6 a cursor;

7 whereby when said second mechanism is

8 depressed, said software automatically and

9 substantially instantaneously positions said cursor

10 proximal the location of a first graphical icon or

11 software control button displayed on a software

12 interface display;

13 whereby, each successive)time said second

14 mechanism is depressed, said software automatically and

15 substantially ~~instantaneously~~ positions said cursor

16 proximal the location of at least a second graphical

17 icon or software control button.

1 39. The weapon-mounted cursor control device according
2 to claim 20 wherein the weapon-mounted cursor control
3 device comprises:

4 a first mechanism for controlling a cursor;

5 at least a second mechanism capable of controlling
6 a cursor;

7 whereby when said second mechanism is depressed.

8 said software automatically and substantially
9 instantaneously positions said cursor proximal the
10 location of a first graphical icon or software control
11 button displayed on a software interface display;
12 whereby, each successive time said second
13 mechanism is depressed, said software automatically and
14 substantially instantaneously positions said cursor
15 proximal the location of at least a second graphical
16 icon or software control button.

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